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AUTHOR	Rasmussen, Constance; And Others
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ABSTRACT

The unit is designed to provide approximately 10 hours of instructional time for learners in grade 3. The primary intent of the unit is to help the learner develop an awareness of sound-extending and sight-extending tools. Four major goals and 18 performance objectives are addressed in the unit. The major topics included in the unit stress: (1) identification of selected sound and sight-extending tools; (2) determination of the function of sound and sight-extending tools; (3) identification of occupations which employ these tools; (4) determination of the value to the individual of observation, practice, and training; and (5) identification of safety hazards and rules in the use of these tools. (Author/VA)

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ED112191

AN INSTRUCTIONAL UNIT

EYE AND EAR TOOLS

(VT 101 963)

PREPILOT TEST COPY

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CE005 209

Arizona Department of Education
W.P. Shofstall, Superintendent

EYE AND EAR TOOLS

Unit Rationale

This unit is designed to provide approximately ten hours of instructional time for learners in the third grade. The primary intent of the unit is to help the learner to develop an awareness of sound-extending and sight-extending tools.

Four major goals and eighteen performance objectives are addressed in this unit. The activities for the performance objectives incorporate selected audio-visual tools commonly used in the classroom.

The major topics included in the unit stress 1) identification of selected sound and sight extending tools, 2) determination of the function of sound and sight extending tools, 3) identification of occupations which employ these tools, 4) determination of the value to the individual of observation, practice, and training, and 5) identification of safety hazards and rules in the use of these tools.

Unit Developers

Ms. Connie Rasmussen
Holmes Elementary School
Mesa, Arizona

Ms. Teresa Thacker
Emerson Elementary School
Mesa, Arizona

Mr. Jerald Glenn
Fremont Junior High School
Mesa, Arizona

Ms. Pat Washburn
Longfellow Elementary School
Mesa, Arizona

GOAL STATEMENT:

1.0 TO DEMONSTRATE HOW TOOLS EXTEND THE SENSE OF SIGHT AND THE SENSE OF HEARING. TRAINING REQUIRED TO USE TOOLS SATISFACTORILY. SAFETY PROCEDURES TO OBSERVE IN USE OF CLASSROOM TOOLS.

PERFORMANCE OBJECTIVES:

1.1 When directed, the learner will name five tools which extend the senses.

1.2 When directed, the learner will name four tools used to extend sight.

1.3 When directed, the learner will name four tools used to extend the sense of hearing.

1.4 When directed, the learner will identify the function of two sight extending tools and two sound extending tools.

1.5 Given a list of occupations, the learner will describe how each uses a sense-extending tool.

1.6 Upon choosing a sense-extending tool, the learner will list two occupations which use this tool.

GOAL STATEMENT:

2.0 STUDENT WILL UNDERSTAND THE VARIOUS PROPERTIES OF TOOLS, EQUIPMENT AND MATERIALS THAT ARE USED IN THE WORLD OF WORK.

PERFORMANCE OBJECTIVES:

2.1 Given a list of seven sense-extending tools the learner will show at least one use of each.

2.2 When directed, the learner will categorize eight sense-extending tools, each according to its function.

2.3 Given a situation, the learner will identify the tool to be used and give a reason for his choice.

GOAL STATEMENT:

3.0 THE STUDENT WILL BE AWARE OF THE SKIL (COMPENTENCY, EXPERTISE, ETC.) THAT IS REQUIRED IN THE USE OF TOOLS, EQUIPMENT, AND MATERIALS IN THE WORLD OF WORK.

PERFORMANCE OBJECTIVE:

3.1 When directed, the learner will list three parts of the training process used to increase competency in a skill.

TEACHER STRATEGIES

AND

LEARNER DIRECTIONS

GOAL STATEMENT:

1.0 TO DEMONSTRATE HOW TOOLS EXTEND THE SENSE OF SIGHT AND THE SENSE OF HEARING. TRAINING REQUIRED TO USE TOOLS SATISFACTORILY. SAFETY PROCEDURES TO OBSERVE IN USE OF CLASSROOM TOOLS.

PERFORMANCE OBJECTIVE:

1.1 When directed, the learner will name five tools which extend the senses.

1.2 When directed, the learner will name four tools used to extend sight.

1.3 When directed, the learner will name four tools used to extend the sense of hearing.

TEACHER'S INFORMATION:

1. Estimated Time: ± 45 minutes

2. Suggested Grouping: Large and individual

3. Appropriate Subject Areas: Social Studies, Science, Art

4. Content Outline:
   a. Tools can extend our senses
   b. Some tools extend the sense of sight
      1. Magnifying glass
      2. Microscope
      3. Binoculars
      4. Telescope
   c. Some tools extend the sense of hearing
      1. Stethoscope
      2. Amplifier
      3. Megaphone
      4. Hearing aid

   Note: The criteria for a sound-extending tool at third grade level is that it helps us to hear sounds better whether the listener is using the tool (stethoscope) or the sender is using the tool (megaphone).

5. New Vocabulary:
   a. Extend
   b. Sense
   c. Telescope
   d. Microscope
   e. Binoculars
   f. Amplifier
   g. Stethoscope
   h. Megaphone
   i. Hearing aid

6. Learner Prerequisite Knowledge: None

7. Teacher Preparation Tasks:
   a. Acquire slides of:
      1. Magnifying glass
      2. Microscope
      3. Binoculars
      4. Telescope
      5. Megaphone
      6. Stethoscope
      7. Amplifier
      8. Hearing aid
   b. Acquire slide projector
   c. Chalkboard
   d. Chalk
   e. Copies of worksheet, "Sense-extending Tools"
   f. Paper
   g. Crayons
   h. Scissors
   i. Glue

8. Learner Worksheets: "Sense-extending Tools"

TEACHER'S STRATEGIES:

1. Today we are going to discuss and look at slides of some special tools which help us to see and hear things better. We will also start a booklet about these tools. Try to remember the names of these tools.

2. Class Discussion

Instructor: Some parts of our body such as our eyes, ears, and nose help us to learn about the world around us. We say we learn things through our senses. Can anyone name all five senses?

Learners: Seeing, hearing, smelling, tasting, and feeling

Instructor: How does our sense of sight help us learn things?

Learners: We can see things. We can see what things are like. We can see how big things are.

Instructor: Suppose you wanted to see something very, very small or far, far away. Could you see it very well or could you even see it at all?

Learners: I can't see things far away at all. They're too far away. There are some animals that are so tiny you don't even know they are there.

Instructor: Does anyone know of anything we could use to help us see things that are real tiny or very far away?

Learners: Yes! A microscope. How about binoculars.

Instructor: Let's list these things on the board. (Make a list of tools

on the chalkboard and guide discussion if needed to include magnifying glass, microscope, binoculars and telescope. Show the slide of each of these four tools as it is mentioned and describe its physical characteristics, such as: "Notice that the binoculars have two tubes side by side.")

Instructor: All of these tools help us see things better. We say they help extend our sense of sight. We call them sense extending tools.

Instructor: How does our sense of hearing help us learn things?

Learners: We can hear the sounds things make. We can hear loud noises.

Instructor: Does anyone know of something we could use to hear very, very soft sounds or do you know of something that could make sound very loud so more people could hear it?

Learners: A megaphone helps you yell louder. Something helps you hear a heart beat.

Instructor: (List tools mentioned on chalkboard and guide discussion if needed to include megaphone or bullhorn, stethoscope, amplifier, and hearing aid. Show the slide of each of these four tools as it is mentioned and describe their physical characteristics. All of these tools help us hear sound better. We say they help extend our sense of hearing. We also call these tools sense-extending tools.

3. Learner Booklets

Instructor: Today we're going to start a booklet about tools that extend our senses. (Title of booklet, "Tools Extend Our Senses.") I'm going to give each of you three sheets of paper. One of these papers ("Sense-extending Tools" worksheet) has pictures of the tools on it. The other two papers are blank. At the top of one blank sheet write "Tools That Extend Sight." (Write it on chalkboard.) At the top of the other blank sheet write "Tools That Extend Hearing." (Write it on chalkboard.) Then you are to look at the tools on the third paper, decide whether they extend our sight or our hearing, cut them apart, and paste them on the right paper. Then you may color the pictures.

4. Now that you have seen the slides and started your booklet you should know the names of four tools which extend the sense of sight and four tools which extend the sense of hearing. Tomorrow, please bring to school a leaf, dead insect, rock and a magnifying glass if you have one.

ENRICHMENT:

Fast:
Do research on other tools - e.g., radar, seismograph, sonar.

Slow:

Select and paste only one sight-extending tool and one sound-extending tool in booklet.

Other:

Make class bulletin board with pictures of sight-extending tools surrounding an eye and pictures of sound-extending tools surrounding an ear.

RESOURCES:

1. Slide projector
2. Slides of:
   a. Magnifying glass
   b. Microscope
   c. Binoculars
   d. Telescope
   e. Megaphone
   f. Stethoscope
   g. Amplifier
   i. Hearing aid
3. Glue
4. Scissors
5. Ditto paper
6. Crayons
7. Chalkboard
8. Chalk

TEST ITEMS:

(See Appendix A., Lessons 1.1, 1.2, 1.3)

SENSE-EXTENDING TOOLS

Hearing aid	Binoculars
Stethoscope	Microscope
Telescope	Amplifier
Magnifying glass	Megaphone

GOAL STATEMENT:

1.0 TO DEMONSTRATE HOW TOOLS EXTEND THE SENSE OF SIGHT AND THE SENSE OF HEARING. TRAINING REQUIRED TO USE TOOLS SATISFACTORILY. SAFETY PROCEDURES TO OBSERVE IN USE OF CLASSROOM TOOLS.

PERFORMANCE OBJECTIVE:

1.4 When directed, the learner will identify the function of two sight extending tools and two sound extending tools.

TEACHER'S INFORMATION:

1. Estimated Time: ± 180 minutes (4 days)

2. Suggested Grouping: Large or individual

3. Appropriate Subject Areas: Social Studies, Art, Science

4. Content Outline:
   1. Function of sight extending tools:
      A. Makes things look larger to they can be seen better.
      B. Makes things seem nearer so they can be seen better.
   2. Function of sound extending tools:
      A. Makes sound louder or makes it seem louder so it can be heard better.

5. New Vocabulary: None

6. Learner Prerequisite Knowledge: Learner will name four tools used to extend the sense of hearing.

7. Teacher Preparation Tasks:
   a. Acquire magnifying glass for each child (small plastic ones or bring one from home.)
   b. Acquire postage stamp per child
   c. Paper
   d. Crayons
   e. Sand - teaspoonful per child
   f. Slide projector
   g. Acquire slides 1 through 20

1. Magnifying glass	11. Leaf
2. Microscope	12. Leaf through microscope
3. Binoculars	13. Hair strand
4. Telescope	14. Hair strand through microscope
5. Megaphone	15. Water
6. Stethoscope	16. Water through microscope
7. Amplifier	17. Moon in sky
8. Hearing aid	18. Moon seen through telescope
9. Blood	19. Planet in sky
10. Blood through microscope	20. Planet seen through telescope

   h. Acquire paper for megaphones (one per learner) make one megaphone by rolling sheet of paper into a cone shape.

8. Learner Worksheets: List of slides

TEACHER'S STRATEGIES:

You have learned the names of four sight-extending tools and four sound-extending tools. During the next few days we are going to find out how sight-extending tools help us see better and how sound extending tools help us hear better. We're going to look at some slides, talk about these tools, and use two of them. Listen carefully so you will know how each tool extends our sight or our hearing.

(first day) 1. One day-- discussion, experiment, drawing--Magnifying Glass.

Instructor: (Pass out magnifying glass and postage stamp to each child.) We have said that the magnifying glass is a tool which helps extend the power of our eye. What does it do that helps us see things better?

Learners: Makes things look bigger. Makes things larger.

Instructor: Look at the postage stamp using your magnifying glass. How does it look?

Learners: Bigger. Larger.

Instructor: Yes. We use this tool to make small things look bigger so we can see them better. But even though it makes things look bigger, are they really bigger? Is the postage stamp bigger?

Learners: No.

Instructor: What are some other things that we could see better with a magnifying glass?

Learners: Tiny insect, leaf, hair.

Instructor: Use the magnifying glass to look at the things you brought to class. (Leaf, rock and insect were assigned in 1.1. Distribute sand for observation. Suggest that they might also look at printing in a book, a strand of hair, etc.)

Instructor: Distribute paper. Now you are to draw a picture of the magnifying glass to go in your booklet. At the bottom of your picture, write down how the magnifying glass extends the sense of sight. (It makes small things look bigger so we can see them better.)

2. Today you have learned how the magnifying glass extends our sense of sight.

3. Tomorrow we are going to learn about another sight-extending tool.

(second day) 1. <u>One day-- discussion, slides, and drawing---Microscope.</u>

Instructor: We have already talked about one tool which extends our sense of sight. What was the name of that tool?

Learners: Magnifying glass.

Instructor: How did this tool help us see better?

Learners: It made things look larger.

Instructor: Did you know that there are some things so tiny that we can't see them even if we use a magnifying glass. Does any one know something that is so tiny that we can't see it even though we look carefully?

Learners: Things in water. I don't know.

Instructor: Some animals, plants, cells in our body, and other things so tiny that we can't see them unless we use a special tool which is more powerful than a magnifying glass. What do you think the tool is?

Learners: Microscope.

Instructor: How does the microscope extend our sight? (Show slide of microscope.)

Learners: It makes things look bigger.

Instructor: Let's look at some slides and see how much bigger it makes things look and see if we can see some tiny things we can't see without this tool. (Comment and point out things that can now be seen using the microscope. Explain that the microscope makes things look 35, 100, or 400 times bigger than they are, depending on the type of microscope.)

Slide 9-- Blood
Slide 10- Blood as seen under microscope
Slide 11- Leaf
Slide 12- Leaf as seen under microscope
Slide 13- Hair strand
Slide 14- Hair strand under microscope
Slide 15- Water
Slide 16- Water under microscope

We know that we can see many tiny things by using the microscope. There is also a special microscope called the electron microscope which magnifies objects too small to be seen by a regular microscope. It magnifies things 200,000 times. What have we learned about the magnifying glass and the microscope?

Instructor: Listen while I say something two times. (Say something without the megaphone and then the same thing using the megaphone.) Did it sound any different the second time?

Learners: It made your voice louder. We could all hear it better.

Instructor: We're going to make some megaphones. I'll give each of you a sheet of paper. Roll it into a cone like a megaphone and then see if it will make your voice sound louder. Distribute paper and let learners experiment in making and using megaphones.)

Instructor: Distribute paper. Make your drawings of these four tools to go in your booklet. Be sure to tell how they extend our sense of hearing. (They make sounds louder - (or seem louder- so they can heard better.)

2. You have learned how the magnifying glass, microscope, telescope, and binoculars extend our sense of sight and how the amplifier, stethoscope, hearing aid and megaphone extend our sense of hearing.

ENRICHMENT:

Fast:
Write a description (physical characteristics and function) of a tool without naming it and then see if the class can identify it from the description.

Slow:
Allow more time to experiment with magnifying glass and megaphone.

Other:
Creative writing story of boy looking through magnifying glass at the grass and suddenly he sees a huge animal coming toward him.

RESOURCES:

1. Magnifying glass for each child (could be inexpensive plastic ones)
2. Slide projector
3. Twenty slides
4. Postage stamp per child
5. Paper 8½" x 11" manila drawing

TEST ITEMS:

(See Appendix A, Lesson 1.4)

Instructor: Yes, binoculars work the same way as the telescope. (Show slide of binoculars.) Now, who can tell us how the telescope and the binoculars help extend our sense of sight?

Learners: They make things far away seem nearer so we can see them better.

Instructor: Distribute paper. Draw a picture of the telescope and the binoculars for your booklet. (Show slides again.) At the bottom of your pictures, be sure to write how these tools extend the sense of sight. (They make things far away seem nearer so we can see them better.)

2. Today you have learned how the telescope and binoculars extend our sense of sight.

3. We have talked about tools which extend the sense of sight and found out they help us see better. Tomorrow we will talk about tools which extend the sense of hearing, or tools which make sound louder or make it seem louder so it can be heard better.

(fourth day) 1. <u>One day-- discussion, experiment, drawings --Sound-Extending Tools.</u>

Instructor: (Show slide of amplifier.) Some of you have seen this tool when a group is playing music. Do you remember the name of this tool?

Learners: An amplifier.

Instructor: An amplifier uses electronic equipment to make sound louder and stronger. (Show slide of stethoscope.) How does this tool help us hear sounds better?

Learners: It makes the quiet sound of your heart seem louder.

Instructor: That's right. It makes the sound of the heart beat louder so it can be heard better. (Show slide of hearing aid.) Some people use this tool. What is the name of this tool?

Learners: Hearing aid.

Instructor: Who uses a hearing aid?

Learners: People who can't hear very well.

Instructor: What do you think it does to help them?

Learners: It makes sounds louder so they can hear them better.

Instructor: (Show slide of megaphone.) Who remembers the name of this tool

Learners: Megaphone (or bullhorn).

Learners: They make things look larger so we can see them better. The microscope is more powerful than the magnifying glass.

Instructor: Distribute paper. Now you are to draw a picture of the microscope. You may look at the slide of the microscope while you are drawing. (Show slide of microscope) At the bottom of your paper, write how the microscope extends the sense of sight. (It makes small things look larger so we can see them better.)

2. Today you have learned how the microscope extends our sense of sight.

3. We have already talked about the magnifying glass and the microscope. Tomorrow we are going to learn how other tools extend our sense of sight.

(third day) 1. <u>One day--discussion, slides, and drawings -- Telescope and Binoculars</u>.

Instructor: What is the name of this tool? (Show slide of telescope.)

Learners: Telescope.

Instructor: Does anyone know how it helps extend the sense of sight?

Learners: Helps us see things that are far away.

Instructor: Yes, it makes things far away seem nearer so we can see them better. What are some things far away that we might want to see?

Learners: A mountain, the moon.

Instructor: Telescopes can be different sizes--from only about a foot long to fifty feet long or even longer than this room. Some telescopes are so large that they are put in a special building called observatories. What things far away will they see with a big telescope?

Learners: The moon, the planets, the stars.

Instructor: Let's look at some slides to better understand how the telescope extends our sense of sight. (Comment on slides as each is shown)
Slide 17 - Moon as seen from earth
Slide 18 - Moon as seen through telescope (craters, etc.)
Slide 19 - Planet (dot in sky) as seen from earth
Slide 20 - Planet as seen through telescope

We have seen how a big telescope can make things very, very far away seem closer so we can see them better. Sometimes we might want to get a closer look at something here on earth, maybe something only a block away or just down the street. What tool would we use?

Learners: Binoculars.

Slides

1. Magnifying glass
2. Microscope
3. Binoculars
4. Telescope
5. Megaphone
6. Stethoscope
7. Amplifier
8. Hearing Aid
9. Blood
10. Blood as seen under a microscope
11. Leaf
12. Leaf as seen under a microscope
13. Hair strand
14. Hair strand as seen under a microscope
15. Water
16. Water as seen under a microscope
17. Moon as seen from earth
18. Moon as seen through telescope (craters, etc.)
19. Planet as seen from earth (dot in sky)
20. Planet as seen through telescope

GOAL STATEMENT:

1.0 TO DEMONSTRATE HOW TOOLS EXTEND THE SENSE OF SIGHT AND THE SENSE OF HEARING. TRAINING REQUIRED TO USE TOOLS SATISFACTORILY. SAFETY PROCEDURES TO OBSERVE IN USE OF CLASSROOM TOOLS.

PERFORMANCE OBJECTIVE:

1.5 Given a list of occupations, the learner will describe how each uses a sense-extending tool.

1.6 Upon choosing a sense-extending tool, the learner will list two occupations which use this tool.

TEACHER'S INFORMATION:

1. Estimated Time: ± 65 minutes (two days)

2. Suggested Grouping: Large and individual

3. Appropriate Subject Areas: Social Studies, Science, Art, English

4. Content Outline:
   a. Various occupations use sense-extending tools:
      1. Magnifying glass: watch adjuster, geologist
      2. Microscope: medical laboratory assistant, electronic assembler
      3. Binoculars: forest ranger, fish and game warden
      4. Telescope: surveyor, astronomer
      5. Stethoscope: doctor, car mechanic
      6. Amplifier: performing music group, pilot
      7. Megaphone: lifeguard, track and field meet official

5. New Vocabulary:
   a. Geologist
   b. Electronic assembler
   c. Watch adjuster
   d. Medical laboratory assistant
   e. Fish and game warden
   f. Automibile mechanic
   g. Surveyor
   h. Astronomer
   i. Transit
   j. Illegally

6. Learner Prerequisite Knowledge:
   When directed, the learner will identify the function of two sight-extending tools and two sound extending tools.
   Term: "occupation"

7. Teacher Preparation Tasks:
   a. Acquire:
      1. Slide projector
      2. Fifteen slides

3. Writing paper
4. Drawing paper
5. Crayons
6. Pencils

8. Learner Worksheets: None

TEACHER'S STRATEGIES:

1. Today we will see slides showing how people use sight-extending and hearing-extending tools in their work. Look at the slides carefully and remember who uses each tool because tomorrow you will be asked to write and draw pictures of what you saw.
(Note: The hearing aid is not included in this lesson as its use is limited to specific persons.)

2. One Day - class discussion of slides

Instructor: We have talked about many tools which can help extend the senses of hearing and seeing. Now we're going to identify some people who use these tools in their work.

(Show Slide 21 - Man fixing watch using special magnifying glass on his glasses.)

Does anyone know what this man is doing?

Learners: Fixing something; fixing a watch.

Instructor: Yes, he is repairing a watch. He's called a watch adjustor. You might call him a watch repairman. Do you notice anything unusual about his equipment? What do you think that is over his eye?

Learners: Magnifying glass.

Instructor: Why does he have the magnifying glass?

Learners: So he can see the tiny parts in the watch better.

Instructor: (Show Slide 22 - Geologist examining mineral specimens with magnifying glass.)

What is this man doing?

Learners: Looking at rocks with a magnifying glass.

Instructor: This man is called a geologist and he uses the magnifying glass so that he can see the tiny particles of the rock better.

(Show Slide 23 - Lab assistant examining blood under a microscope.

What tool is this man using?

Learners: Microscope.

Instructor: Right, the microscope. This man is a medical laboratory assistant or a lab technician. Why do you think he needs to use the microscope? Can't he see the blood already?

Learners: He wants to see the little parts in the blood.

Instructor: Yes, he needs to count certain tiny parts in the blood which he can't see without the microscope.

(Show Slide 24 - Man or woman assembling equipment using microscope.)

Do you know what this person is doing?

Learners: Putting something together, working on something.

Instructor: What tool is he using?

Learners: Microscope.

Instructor: This person is an electronic assembler. He puts tiny parts together. Why does he use a microscope?

Learners: To make the parts seem bigger so he can see them better.

Instructor: (Show Slide 25 - Fire starting on mountain side.)

Oh, oh! This doesn't look good. What's happening here?

Learners: Someone started a fire; a fire is starting.

Instructor: Yes, a fire is starting. Do you think someone is going to spot it before it gets real big?

Learners: Yes; no.

Instructor: Let's see.

(Show Slide 26 - Forest Ranger in tower looking through binoculars.)

Who is this man?

Learners: A ranger; a forest ranger.

Instructor: Yes, he is a forest ranger in a tower. Do you think he sees the fire?

Learners: Yes.

Instructor: What tool is he using?

Learners: Binoculars.

Instructor: Why does he use the binoculars?

Learners: They make the mountain seem closer so he can spot fires better.

Instructor: (Show Slide 27 - Fish and Game Warden using binoculars.)

Here is another man who works outdoors. Do you know what he is called?

Learners: Game warden.

Instructor: Yes, he is the Fish and Game Warden. What tool is he using?

Learners: Binoculars.

Instructor: Why do you think he uses the binoculars?

Learners: To see animals better; to see a deer on the mountain side.

Instructor: Yes, he uses them to check on the animals and on people who might be killing the animals illegally.

(Show Slide 28 - Surveyor using transit on a tripod.)

Does anyone know what this man is doing?

Learners: Looking at something; surveying.

Instructor: Yes, he is surveying. He is called a surveyor. He marks the boundaries of land so he needs to be able to see spots far away. What is the tool he is using?

Learners: Telescope.

Instructor: Yes, it is a telescope. A small telescope called a transit. Why is he using it?

Learners: So he can see places far away.

Instructor: (Show Slide 29 - Astronomer using telescope.)

This man is also using a telescope but look how big it is. Does anyone know what this man is called?

Learners: Scientist.

Instructor: He is called an astronomer. He is a scientist who studies the moon, planets, and the stars. Why do you think he is

using the telescope?

Learners: So he can see the moon and planets better. They will look closer.

Instructor: By using the telescope he can see the moon and planets better because they seem closer. He can see craters and mountains on the moon.

(Show Slide 30 - Doctor using stethoscope to examine someone's heart.)

What is the doctor using?

Learners: Stethoscope.

Instructor: Why is he using it?

Learners: So he can hear the boy's heart beat better.

Instructor: Yes, the stethoscope makes the sound of the heart louder so the doctor can hear it better. Veterinarians, animal doctors, also use the stethoscope.

(Show Slide 31 - Automobile mechanic using stethoscope to listen to sounds in car.) Here is an automobile mechanic fixing a car. Do you recognize the tool he is using?

Learners: Yes, a stethoscope.

Instructor: Why do you think he is using it?

Learners: So he can hear little sounds better; so he'll know what to fix.

Instructor: (Show Slide 32 - Music group using amplifier.)

These people play music for others to hear. What tool are they using? They're called musicians.

Learners: Amplifier.

Instructor: Yes, it's an electronic amplifier. Why do you think they use it.

Learners: To make the music loud.

Instructor: Yes, it makes the music louder so people who are not close to them can hear the music too.

(Show Slide 33 - Airplane pilot listening to message from control tower.) You probably recognize this man as a pilot. He's listening to a message from the control tower. What tool do you think is helping him to hear the message?

Learners: The earphones; an amplifier.

Instructor: A little amplifier is making the voice of the other man loud enough so he can hear it.

(Show Slide 34 - Lifeguard using megaphone at swimming pool.)

Many of you probably know what this man is called.

Learners: He's the lifeguard.

Instructor: Yes, he's the lifeguard at the swimming pool. What tool is he using?

Learners: Megaphone.

Instructor: Why does he use the megaphone?

Learners: To make his voice louder so people can hear it better.

Instructor: (Show Slide 35 - Track meet official using megaphone.) This man is announcing events at a track meet. He is an athletic coach. Why is he using the megaphone?

Learners: So people can hear what he is saying. It makes his voice louder.

3. By looking at the slides and listening carefully you now know two occupations which use each sense-extending tool.

NEXT DAY

1. Today we are going to write and draw pictures about people who use sight-extending and sound-extending tools in their work.

2. One day - writing and drawing assignments
   a. Writing Assignment
      Instructor: (Write the occupations on the chalkboard - watch adjuster, geologist, laboratory assistant, electronic assembler, forest ranger, fish and game warden, surveyor, astronomer, doctor, automobile mechanic, musicians, pilot, lifeguard, athletic coach.)

      Here is a list of the occupations we talked about yesterday. You have seen how each occupation uses a sense-extending tool. Now you are to write each occupation on your paper and then tell how each uses a sense-extending tool. (Distribute writing paper.)

      Examples:
      Watch adjuster: magnifying glass - to see the watch parts better.

Geologist: magnifying glass - to look at rocks
Laboratory assistant: microscope - to look at blood
Electronic assembler: microscope - to put tiny parts together
Forest Ranger: binoculars - to spot a fire
Fish and Game Warden: binoculars - to check on animals and people
Surveyor: telescope - to see land boundaries
Astronomer: telescope - to look at the planets
Doctor: stethoscope - to hear someone's heart
Automobile mechanic: stethoscope - to hear the noises in the car's engine
Musicians: amplifier - makes their music louder
Pilot: amplifier - to hear the message from the tower
Lifeguard: megaphone - to direct people at the swimming pool
Athletic coach: megaphone - to announce events at a track meet

b. Drawing assignment
Instructor: Now that you are through with your list you are to draw pictures of two people using a sense-extending tool in their work. These pictures will go in your booklet. (Distribute drawing paper.)

3. You now know how sight-extending and sound-extending tools are used in many occupations.

ENRICHMENT:

Fast:
Interview a worker who uses a sense-extending tool

Slow:
Give one occupation that uses a sense-extending tool and illustrate in drawing.

Other:
Make mural of people at work using the tools.

RESOURCES:

1. Fifteen slides
2. Slide projector
3. Writing paper 8½ inch x 11 inch
4. Drawing paper 8½ inch x 11 inch
5. Crayons
6. Pencils

TEST ITEMS:

(See Appendix A, Lessons 1.5, 1.6)

Slides

Slide 21 - Watch adjuster with special magnifying glass on eye glasses

Slide 22 - Geologist using magnifying glass

Slide 23 - Medical laboratory assistant using microscope

Slide 24 - Electronic assembler using microscope

Slide 25 - Fire starting on mountain side

Slide 26 - Forest ranger using binoculars

Slide 27 - Fish and Game Warden using binoculars

Slide 28 - Surveyor using telescope (transit)

Slide 29 - Astronomer using telescope

Slide 30 - Doctor using stethoscope

Slide 31 - Automobile mechanic using stethoscope

Slide 32 - Music group using amplifier

Slide 33 - Pilot using amplifying equipment in earphones

Slide 34 - Lifeguard using megaphone

Slide 35 - Track meet official using megaphone

GOAL STATEMENT:

2.0 STUDENT WILL UNDERSTAND THE VARIOUS PROPERTIES OF TOOLS, EQUIPMENT AND MATERIALS THAT ARE USED IN THE WORLD OF WORK.

PERFORMANCE OBJECTIVE:

2.1 Given a list of seven sense-extending tools the learner will show at least one use of each.

TEACHER'S INFORMATION:

1. Estimated Time: ± 30 minutes

2. Suggested Grouping: Individual

3. Appropriate Subject Areas: Social Studies, Science, English

4. Content Outline:
   a. Learner gives personal examples of how he would use sense-extending tools such as:
      Magnifying glass - look at a fly
      Microscope - examine some water
      Telescope - spy on a friend

5. New Vocabulary: None

6. Learner Prerequisite Knowledge: Learner will list two occupations which use a sense-extending tool.

7. Teacher Preparation Tasks:
   a. Acquire learner worksheet

   b. Pencils

8. Learner Worksheets: "Using Sense-Extending Tools"

TEACHER'S STRATEGIES:

1. We have already talked about how tools are used to extend our sight and our hearing. We have also looked at slides showing people using these tools in their work. Today we are going to divide into groups of three so that each group can discuss ways of using sense-extending tools.

2. Instructor: (Divide the class into groups of three and distribute worksheet, "Using Sense-Extending Tools.") Pretend that your group has every tool on this paper. You can take these tools anywhere you want and look at or listen to anything you want. Talk about what you want to look at or listen to with each tool and then write it on your paper. You may list more than one use for each tool.

Examples:

a. How I would use the magnifying glass: examine a beetle
b. How I would use a microscope: examine a piece of skin
c. How I would use binoculars: watch a bird in a tree
d. How I would use a telescope: spy on a friend down the street
e. How I would use an amplifier: make the music loud
f. How I would use a megaphone: yell to my friend in centerfield
g. How I would use a stethoscope: listen to my dog's heart

(After learners have completed worksheet, conduct class discussion with learners sharing their ideas on how they would use each tool.) Who would like to tell us how he would use the microscope? (or) How would you use a stethoscope?

3. By completing your worksheet, you have shown how you would use each sense-extending tool.

ENRICHMENT:

Fast:
Make chart depicting use of a tool - "Uses of the Microscope," etc.

Slow:
Drawing picture of himself using a magnifying glass.

Other:
Compile class booklet, "What I would look at with a Microscope," etc. Make a section for each tool.

RESOURCES:

1. Ditto paper
2. Pencils

TEST ITEMS:

(See Appendix A, Lesson 2.1)

Using Sense-Extending Tools

a. How I would use the magnifying glass:

b. How I would use a microscope:

c. How I would use binoculars:

d. How I would use a telescope:

e. How I would use a stethoscope:

f. How I would use an amplifier:

g. How I would use a megaphone:

GOAL STATEMENT:

2.0 STUDENT WILL UNDERSTAND THE VARIOUS PROPERTIES OF TOOLS, EQUIPMENT AND MATERIALS THAT ARE USED IN THE WORLD OF WORK.

PERFORMANCE OBJECTIVE:

2.2 When directed, the learner will categorize eight sense-extending tools each according to its function.

TEACHER'S INFORMATION:

1. Estimated Time: ± 40 minutes

2. Suggested Grouping: Individual

3. Appropriate Subject Areas: Social Studies, Science, Art

4. Content Outline:
   Classifying tools according to function.
   a. Some tools make things larger so they can be seen better.
      1. magnifying glass
      2. microscope
   b. Some tools make things far away seem nearer so they can be seen better.
      1. binoculars
      2. telescope
   c. Some tools make sounds louder so they can be heard better.
      1. stethoscope
      2. amplifier
      3. megaphone

5. New Vocabulary: None

6. Learner Prerequisite Knowledge:
   When directed, the learner will name four tools used to extend the sense of hearing.

7. Teacher Preparation Tasks:
   a. Acquire paper and crayons for all students to use.

8. Learner Worksheets: None

TEACHER'S STRATEGIES:

1. Today we are going to think about how each tool helps extend our senses and divide the tools into groups. You will draw pictures of the tools that belong in each group. We are also going to make up riddles about the tools.

2. Drawings

   Instructor: Who can tell us the two ways that tools help extend our sense of sight? I'll list them on the chalkboard.

a. Some tools make things close to us seem larger so they can be seen better.

b. Some tools make things far away seem nearer so they can be seen better.

Instructor: Who can tell us how tools help extend our sense of hearing?

a. Some tools make sounds louder so they can be heard better. (List on chalkboard with other two sentences).

Instructor: Distribute paper to each learner. Fold your paper into three parts. (Demonstrate how to fold paper into three vertical columns.) Now, write one of these sentences (point to chalkboard) at the top of each part. You are to draw and color pictures of tools which belong with each sentence.

Some tools make things close to us seem larger so they can be seen better.	Some tools make things far away seem nearer so they can be seen better.	Some tools make sounds louder so they can be heard better.

2. Oral riddles

Instructor: Now that you have finished your drawings, who can make up a riddle about a tool? Then, let's see if the rest of the class can guess to which group it belongs. For example, I am thinking of a tool that I can use to look at trees on the mountainside and birds in their nests. Which group do I belong in? (Group 2 - Some tools make things far away seem nearer so they can be seen better.)

Summary

By making your drawings and telling your riddles, you have shown that you can place the tools into three different groups according to how they help extend our senses.

Enrichment

Make a large chart of class assignment.

Slow:

Manipulate small pictures of objects and place in appropriate boxes labeled with three categories.

Other: None

RESOURCES:

1. Paper - 12 inches x 16 inches
2. Crayons

TEST ITEMS:

(See Appendix A, Lesson 2.2)

GOAL STATEMENT:

2.0 STUDENT WILL UNDERSTAND THE VARIOUS PROPERTIES OF TOOLS, EQUIPMENT AND MATERIALS THAT ARE USED IN THE WORLD OF WORK.

PERFORMANCE OBJECTIVE:

2.3 Given a situation, the learner will identify the tool to be used and give a reason for his choice.

TEACHER'S INFORMATION:

1. Estimated Time: ± 25 minutes

2. Suggested Grouping: Individual and large group

3. Appropriate Subject Areas: Social Studies, Science, English

4. Content Outline:
   a. Identify tool to be used for a given situation and a reason for the choice.
      Situation:
         Find out what is in a drop of rain water.
      Tool:
         Microscope
      Reason:
         It is the best magnifying instrument.

5. New Vocabulary: None

6. Learner Prerequisite Knowledge: None

7. Teacher Preparation Tasks:
   a. Acquire drawing paper, crayons
   b. Chalkboard and chalk.

8. Learner Worksheet: None

TEACHER'S STRATEGIES:

1. In an earlier lesson (1.1), each of you told how you would use each sense-extending tool. Today you will be told the job which needs to be done and you must select the right tool to do the job, telling why you would use that particular tool.

2. (Write list of situations on chalkboard)
   a. Examine someone's blood.
   b. See an animal on a mountain side.
   c. Look closer at a fire.
   d. Find out what is in a drop of pond water.
   e. Examine salt.
   f. Examine skin cells.
   g. See a crater on the moon.
   h. Look at the planet, Jupiter.
   i. Repair a wrist watch.

j. Listen to a heart beat.
k. Tell something to my friend who is at the end of a football field.
l. Play a guitar and make it sound very loud.

Instructor: On the board is a list of things which can be done if we use the right tools. Each of you is to select one of these things and draw a picture of yourself using the right tool to do the job. For example: if you choose to do situation "h" you would draw a picture of yourself looking at the planet Jupiter through a telescope. When the drawings are completed, we will show them to each other and tell why we chose to use a particular tool.

(Distribute drawing paper.)

3. By choosing the correct tool to do each job, you have shown that you understand the purpose of each tool.

ENRICHMENT:

Fast:
Compile a list of situations for which a particular tool could be used. Read aloud the list and see if class can guess the tool.

Slow:
Allow more time to complete picture.

Other:
Divide chalkboard into four sections. Have names of seven sense-extending tools written at random in each of the four spaces. Divide class into four teams and number each team member. (Each team has a number 1, number 2, etc.) State a situation such as "examine someone's blood" and call a number. Learners with that number rush to the board and point to the tool they think would best do the job. First learner with correct choice must give his reason for the choice in order for his team to earn a point.

RESOURCES:

1. Crayons
2. Drawing paper 12 inch x 16 inch
3. Chalkboard
4. Chalk

TEST ITEMS:

(See Appendix A, Lesson 2.3)

GOAL STATEMENT:

3.0 THE STUDENT WILL BE AWARE OF THE SKILL (COMPETENCY, EXPERTISE, ETC.) THAT IS REQUIRED IN THE USE OF TOOLS, EQUIPMENT, AND MATERIALS IN THE WORLD OF WORK.

PERFORMANCE OBJECTIVE:

3.1 When directed, the learner will list three parts of the training process used to increase competency in a skill.

TEACHER'S INFORMATION:

1. Estimated Time: ± 40 minutes

2. Suggested Grouping: Large or individual

3. Appropriate Subject Areas: Social Studies, Science, English

4. Content Outline:
   Training increases competency in a skill.
   a. Three parts of training:
      1. learn the directions (instructions)
      2. watch the demonstration
      3. practice the right way

5. New Vocabulary: training, demonstration, instructions

6. Learner Prerequisite Knowledge:
   a. Given a situation, the learner will identify the tool to be used and give a reason for his choice.
   b. Terms:
      1. "valuable"
      2. "operate" (how to make a tool work)

7. Teacher Preparation Tasks:
   a. Acquire newspaper for paper soldier hat.
   b. "How to Make the Paper Soldier Hat" sheet.
   c. Chalkboard
   d. Chalk
   e. Paper
   f. Pencils

8. Learner Worksheet: None

TEACHER'S STRATEGIES:

1. We have seen how the sense-extending tools can help us learn many things, but in order to be able to use them we must know how to operate them in the right way. Today we will talk about three things we can do to learn how to operate a tool correctly.

2. (List seven tools on the chalkboard - magnifying glass, microscope,

binoculars, telescope, megaphone, amplifier, stethoscope.)

Instructor: We have learned how tools can extend our sense of sight and our sense of hearing. Tools can be very valuable and help us learn many things. Now suppose we had all these tools, but what if we didn't know how to make them work?

Learners: We couldn't use them They wouldn't be of any use to us.

Instructor: To help us understand how important it is to know how to work a tool in the right way, let's think about cars. For what do we use cars?

Learners: To ride in; to get to places in, to carry things in.

Instructor: Yes, you all know what we use cars for but how many of you know how to work them correctly? How many of you could get in a car and drive to another city without any problems?

Learners: None of us. I couldn't.

Instructor: If you tried to drive the car without knowing how to work it, what might happen?

Learners: We might have an accident.

Instructor: Yes, you could damage the car and maybe hurt yourself. Would you get where you wanted to go?

Learners: Probably not. No.

Instructor: What might happen if you tried to use a tool without knowing how to work it?

Learners: We might damage the tool; hurt ourselves.

Instructor: Would you be able to use it to help you learn?

Learners: No.

Instructor: We may know how to correctly use some of these tools already.

(Point to list on chalkboard)

Are there any of these tools which you already know how to use?

Learners: Yes, the magnifying glass and the megaphone.

Instructor: Are there any of these tools which you partially know how to use?

Learners: The binoculars; stethoscope.

Instructor: Are there any of these tools which you really don't know how to use or that you might need to learn how to operate better?

Learners: Telescope; microscope.

Instructor: Let's talk about the microscope for a few minutes. Suppose you wanted to learn how to work the microscope; what would you do? Let's list your ideas on the chalkboard.

Learners: Ask someone; ask the teacher to show me; try it out; fool around with it; get my dad to tell me; watch someone else.

Instructor: (After all voluntary comments are listed, review and comment or constructively evaluate each item. For example, the first comment says "ask someone." Say: "That's a good idea but who would you ask?" For the comment, "Try it out," say: "That, too, is a good idea but do you think it would be better to know something more about the tool, first?" You have mentioned some very important ways to learn how to operate the microscope. Are there some of these things that we should do first? (Obtain responses from class and guide discussion to categorize all comments under three general headings and list three headings on the chalkboard.

a. Learn the directions (what to do)
   1. from someone who knows them.
   2. read them in a book.
b. Watch the demonstration (watch someone else use the tool).
c. Practice the right way (do it yourself).

Instructor: Now I need two volunteers to make a hat. Who would like to do it?

Learners: Me. Me.

Instructor: John and Mary come to the front. Here is some paper. Would each of you make a soldier's hat for me. (If the learners already know how to make soldier's hats you will need to use something else.)

Learners: We don't know how. How do you make a soldier's hat? Tell us how to do it.

Instructor: Oh! You mean you need some directions. Okay. Fold your paper in half. Fold the corners over to the center but leave about a 3 inch strip at the bottom. Fold the strip up on the sides to make the hat.

Learners: We still can't do it.

Instructor: Would you like me to demonstrate for you?

Learners: Please.

APPENDIX A – EVALUATION

Test Items
Test Directions

EYE AND EAR TOOLS
Directions
Lesson 1.1

Administration Directions: Teacher reads: Circle the numbers above the pictures of tools that help to extend the senses.

Item Key: Second and third picture

EYE AND EAR TOOLS
Items
Lesson 1.1
(1 question)

Name _____

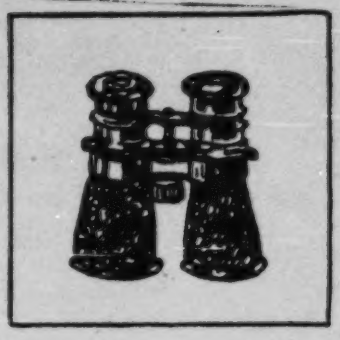
Date _____

Number right _____

1

2

3



EYE AND EAR TOOLS

Directions

Lesson 1.2

Administration Directions: Teacher reads: Circle the numbers above the pictures of tools we can use to extend our sight.

Item Key: First and second picture

EYE AND EAR TOOLS

Items
Lesson 1.2
(1 question)

Name _____

Date _____

Number right _____

1

2

3

EYE AND EAR TOOLS

Directions
Lesson 1.3

Administration Directions: Teacher reads: Circle the numbers above the pictures that help us extend our sense of hearing.

Item Key: First and third picture

EYE AND EAR TOOLS

Items
Lesson 1.3
(1 question)

Name _____

Date _____

Number right _____

1

2

3

EYE AND EAR TOOLS

Directions
Lesson 1.4

1. Administration Directions: Teacher reads: Circle the letter in front of the sentence that tells why we use a microscope and a telescope. (teacher reads responses)
   a. make things louder
   b. make things larger
   c. make things nearer

   Item Key: Letter b

---

2. Administration Directions: Teacher reads: Circle the letter in front of the sentence that tells what a microphone and a stethoscope do. (teacher reads responses.)
   a. makes things larger
   b. makes things nearer
   c. makes things louder

   Item Key: Letter c

EYE AND EAR TOOLS

Items
Lesson 1.4
(2 questions)

Name _____

Date _____

Number right _____

1. a. makes things louder

   b. makes things larger

   c. makes things nearer

---

2. a. makes things larger

   b. makes things nearer

   c. makes things louder

EYE AND EAR TOOLS

Directions
Lesson 1.5

Administration Directions: Teacher reads: Draw a line from the worker in row A to the sense tools each worker might use in row B.

Item Key: Doctor-stethoscope Lifeguard-megaphone Scientist-telescope

EYE AND EAR TOOLS

Items
Lesson 1.5
(1 question)

Name _____

Date _____

Number right _____

Row A

Doctor

Scientist

Lifeguard

Row B

EYE AND EAR TOOLS

Directions

Lesson 1.6

Administration Directions: Teacher reads: Circle the number above the picture of a worker who uses a microphone.

Item Key: Third picture

EYE AND EAR TOOLS

Items

Lesson 1.6

(1 question)

Name _____

Date _____

Number right _____

1

2

3

EYE AND EAR TOOLS

Directions
Lesson 2.1

Administration Directions: Teacher reads: Draw a line from the picture of a tool to a statement of something you could do with that tool.

Item Key: microscope-c telescope-a binoculars-b

EYE AND EAR TOOLS

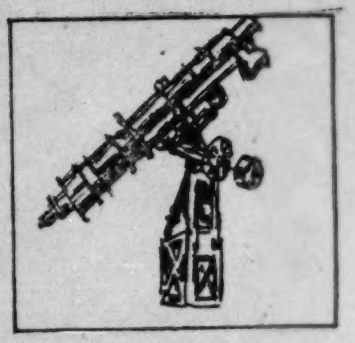
Items
Lesson 2.1
(1 question)

Name _____

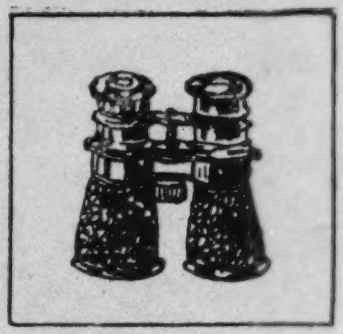
Date _____

Number right _____

a. look at the stars



b. make things look closer



c. look at butterfly wings

EYE AND EAR TOOLS

Directions

Lesson 2.2

Administration Directions: Teacher reads: Look at the pictures. Draw a line from the picture of the magnifying glass to the group of words that tell what it does. (teacher reads responses)
a. makes things look larger (pause) b. makes things sound louder. Now look at the next picture, it shows a microphone. Draw a line to the group of words that tell what it does. (teacher reads responses)
a. makes things look larger (pause) b. makes things sound louder. (continue for the picture of the megaphone and binoculars)

Item Key: 1-a 2-b 3-b 4-a

EYE AND EAR TOOLS

Items
Lesson 2.2
(1 question)

Name _____

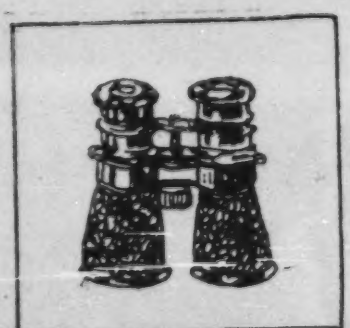
Date _____

Number right _____

1.

2.

3.

4. 

a. makes things look larger

b. makes things sound louder

1

EYE AND EAR TOOLS
Directions
Lesson 2.3

1. Administration Directions: Teacher reads: Circle the number above the tool you would use to get the best look at a star.

Item Key: First picture

---

2. Administration Directions: Teacher reads: Troy wanted to look at the stars. He chose a telescope for his tool. Circle the letter in front of the sentence that tells why Troy was right to choose a telescope.

Item Key: Letter b

EYE AND EAR TOOLS

Items

Lesson 2.3

(2 questions)

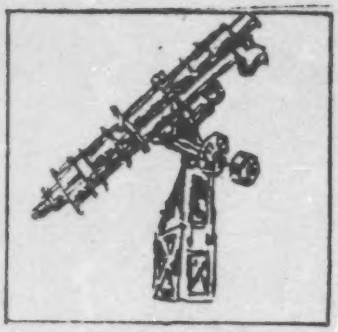
Name _____

Date _____

Number right _____

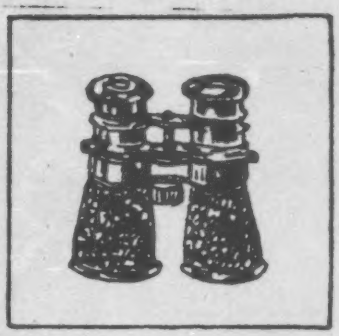
1.

1



2

3



2. a. stars get bigger

b. stars look closer

c. stars become louder

EYE AND EAR TOOLS
Directions
Lesson 3.1

Administration Directions: Teacher reads: Circle the number above the picture that shows what might happen if Troy did not use scissors safely.

Item Key: Third picture

EYE AND EAR TOOLS

Items

Lesson 3.1

(1 question)

Name _____

Date _____

Number right _____

1

2

3

EYE AND EAR TOOLS
Directions
Lesson 3.2

Administration Directions: Teacher reads: Circle the number above the picture that shows the correct way to pass scissors.

Item Key: Third picture

EYE AND EAR TOOLS

Items

Lesson 3.2

(1 question)

Name _____

Date _____

Number right _____

1

2

3

EYE AND EAR TOOLS

Directions

Lesson 3.3

Administration Directions:	Teacher reads: Draw a line from the picture of a tool to the picture that shows the correct use of that tool.
Item Key: scissors - 2	glue - 1

EYE AND EAR TOOLS

Items

Lesson 3.3

(1 question)

Name _____

Date _____

Number right _____

EYE AND EAR TOOLS

Directions

Lesson 3.4

Administration Directions: Teacher reads: Sam was using a magnifying glass to look at a bug on the floor. He left the glass on the floor and went out to play. Fred accidently stepped on the glass with his sandals and cut his toe. Circle the number above the picture that shows what Sam should have done.

Item Key: Second picture

EYE AND EAR TOOLS

Items

Lesson 3.4

(1 question)

Name _____

Date _____

Number right _____

1

2

3

EYE AND EAR TOOLS

Directions

Lesson 4.1

Administration Directions: Teacher reads: Circle the numbers above the pictures and words that show something you need to do when you learn something new.

Item Key: First and second picture

EYE AND EAR TOOLS
Items
Lesson 4.1
(1 question)

Name _____

Date _____

Number right _____

1

LISTEN

2

WATCH

3

SMELL

EYE AND EAR TOOLS

Directions

Lesson 4.2

Administration Directions: Teacher reads: Circle the letters in front of the words that tell about the pictures you would get when you know how to use a telescope. (teacher reads responses) a. clear b.close c. blurred

Item Key: Letters a and b

EYE AND EAR TOOLS

Items

Lesson 4.2

(1 question)

Name _____

Date _____

Number right _____

a. clear

b. close

c. blurred

Directions

Lesson 4.3

Administration Directions: Teacher reads: Circle the number above the picture that shows how watching someone can help a person know how to correctly use a megaphone.

Item Key: Third picture

EYE AND EAR TOOLS

Items
Lesson 4.3
(1 question)

Name _____

Date _____

Number right _____

1

2

3

EYE AND EAR TOOLS

Directions

Lesson 4.4

Administration Directions: Teacher reads: Circle the number above the **picture** that shows how practice can help a person use a stethoscope.

Item Key: First picture

EYE AND EAR TOOLS

Items
Lesson 4.4
(1 question)

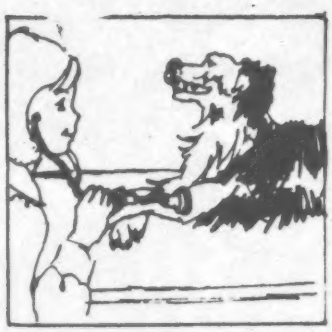
Name _____

Date _____

Number right _____

1

2



3

EYE AND EAR TOOLS
Directions
Lesson 4.5

Administration Directions: Teacher reads: Circle the letters by the words or groups of words that tell what a person could learn when being trained to use a microscope. (continue reading) a. focus (pause) b. set up slides (pause) c. take pictures.

Item Key: Letters a and b

EYE AND EAR TOOLS

Items
Lesson 4.5
(1 question)

Name _____

Date _____

Number right _____

a. focus

b. set up slides

c. take pictures

PILOT TEST INSTRUMENT

Introduction

This instrument is designed to gather information which will be used to help refine Career Education Curriculum Units. As the instructor in the pilot test, you are the most qualified individual to provide this information. As this is a prepilot copy of the curriculum unit, you will find that you will have many suggestions and comments for its improvement. It is important that while completing this instrument you are as specific as possible in suggesting improvements for the unit.

Read over the entire instrument as soon as you receive it. Please complete those parts of the instrument on which data are available as soon as possible. This will alleviate the problem of trying to recall at the end of the unit what actually took place. It is hoped the format of this instrument is such that it will take a minimal amount of your time. If you have tested more than one Career Education unit during the school year, some of the questions for this instrument will be duplicated for each unit. We apologize for this duplication; however, we wish to have complete information in one source for each unit.

Again we thank you for your part of this cooperative effort in developing a career education program.

Demographic Data

1. Curriculum Unit Identification Title: _____
2. Curriculum Unit Identification Code: ___ ___ ___ ___ ___ ___ ___ ___ ___ ___
3. _____ Name of School and District
4. _____ Grade

Attitudinal Data

The following questions pertain to the curriculum unit as you received it, not to changes that you may have introduced while teaching the unit. Place an X in each box which best represents your opinion.

1. Which of the following best describes the student achievement of goals delivered by this curriculum unit?

   ☐ All of the unit goals were achieved.
   ☐ Only some of the unit goals were achieved.
   ☐ None of the unit goals were achieved.

2. Which of the following best describes how the performance objectives related to the goal(s) of the unit?

   ☐ Each performance objective was directed toward the attainment of the goal(s) of the unit.
   ☐ Only some performance objectives were directed toward the attainment of the goal(s) of the unit.
   ☐ None of the performance objectives was directed toward the attainment of the goal(s) of the unit.

3. Which of the following best describes how the unit learning activities delivered the unit performance objective?

   ☐ Each learning activity was effective in delivering the performance objective(s).
   ☐ Only some learning activities were effective in delivering the performance objective(s).
   ☐ No learning activities were effective in delivering the performance objective(s).

4. Approximately what percent of the unit's learning activities did you use?

   ☐ More than 80%
   ☐ Between 60% and 80%
   ☐ Between 40% and 60%
   ☐ Between 20% and 40%
   ☐ Less than 20%

5. Were the unit learner activities organized sequentially with respect to levels of difficulty?

   ☐ Yes, sequence was adequate
   ☐ No, sequence needs revision
   ☐ Not applicable

6. How does the specified duration of the unit compare to the amount of time you felt was necessary to effectively teach it?

- ☐ The specified time was too long.
- ☐ The specified time was sufficient.
- ☐ The specified time was too short.
- ☐ Time was not specified.

7. To what extent did the unit hold class interest?

- ☐ Most of the class showed great interest.
- ☐ Most of the class showed some interest.
- ☐ Most of the class showed no interest.

8. Overall rating:

- ☐ Retain the unit with minor revisions as indicated in this form.
- ☐ Retain the unit with extensive revisions as indicated in this form.
- ☐ Seriously reconsider using the unit.
- ☐ Drop the unit from consideration.

Suggest any further changes that you feel should be made in order to improve the unit.